UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,345	12/18/2000	Minoru Mukaida	F-6783	5183

7590 02/28/2002

Jordan and Hamburg
122 East 42nd Street
New York, NY 10168

EXAMINER
UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
1773	4

DATE MAILED: 02/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

T-D-4

Office Action Summary	Application No.	Applicant(s)	
	09/740,345	MUKAIDA, MINORU	
	Examiner	Art Unit	
	Nikolas J. Uhlir	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 09/29/00. It is noted, however, that applicant has not filed a certified copy of the 2000-298111 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 1, the applicant claims "an energy consumption efficiency substantially equal to three powers of adhesion improving rate under ordinary use conditions." It is unclear to the examiner exactly what this phrase is claiming. The examiner believes the applicant is referring to page 8 of the specification, where the applicant states that {improvement in rolling resistance} X {improvement in traveling distance} X {improvement in number of accelerator operations} $\approx$ {improvement in adhesion}^{3}. It is unclear to the examiner how each of these factors is calculated. Further, the applicant states that the energy consumption efficiency improving agent can be applied to the tire of a vehicle or to footwear. It is unclear to the examiner how factors such as rolling resistance and accelerator operations can be applied to footwear. Clarification is required.

5. Regarding claims 7 and 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven (US3878147) in view of The Encyclopedia of Polymer Science, Vol. 3, November 1985, pg. 552.

8. The limitation "generated by condensation action of an external substance such as water during adhesion" in claim 6 is a product-by-process limitation and does not appear to be further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

Craven teaches a composition that is used to increase the friction of surfaces on ice, particularly the surfaces of automobile and truck tires (column 1, lines 5-8). This

composition can also be applied to the soles of boots and shoes (column 3, lines 4-7). The composition is a mixture of a binder and fine particles that possesses excellent adherence to rubber substrates and provides a high level of friction on icy roads (column 1, lines 21-25). The composition comprises 5-25% by weight of a soluble elastomer, 43-92.99% by weight of a solvent for the elastomer, and 2-20% by weight of dispersed inorganic particles having a particle size between .2-105 μm. Optionally the composition can contain .01-2% of a dispersing agent for the inorganic particles. Further, the composition can be made into an aerosol by combining 25-95% by volume of the composition with 75-5% by volume of an aerosol (column 1, lines 30-42). The elastomer of the composition can be selected from styrene-butadience-styrene block copolymers, chlorosulfonated polyethylene, polyester, or polyether polyurethanes, polyureas, and poly(methacrylate) (column 1, lines 50-60). Typical solvents include cyclohexane, hexane, toluene, methyl ethyl ketone, methylene chloride, acetone, tetrahydrofuran, benzene etc... (column 1, line 66-column 2, line 7). The hard inorganic particles are selected from diatomaceous earth, silicon carbide, aluminum oxide, and silica (column 2, lines 8-22). This composition is typically applied to a substrate via brushing, spraying, or dipping. The resultant dry film has a thickness of about .5-5 mils (column 2, lines 63-69). The examiner takes the position that "about .5 mils" is equivalent to 10 μm. Further, Craven teaches that a film that is 1-2 mils thick will typically remain on the tire for 5-10 miles, depending on road conditions (column 3, lines 13-15). Therefore the thickness of the film is a result effective variable. It would be obvious to optimize the thickness of the film to suit the distance to be traveled. Shorter

distances would require a thinner coating, thereby conserving material. Example 1 shows a coating composition comprising the elastomer "Kraton" 1102. This elastomer is a polystyrene-polybutadiene-polystyrene block copolymer having a viscosity of 400cp (column 3, example 1).

10. Craven does not teach a coating composition that comprises a flexible polymer binder having a viscosity <100,000 cp and a solution forming agent necessary to make the viscosity of the mixture <100 cp.

11. The Encyclopedia of Polymer Science, Vol. 3, November 1985, pg. 552 teaches common coating methods and the viscosity range of compounds which are coated utilizing those methods. Therefore, the examiner takes the position that the viscosity of a coating composition is a results effective variable. It would be obvious to optimize the viscosity of the coating composition to meet the requirements of the coating method to be utilized. The coating composition disclosed by Craven is applied via dip coating, spray coating, or brush coating. Table 1 of The Encyclopedia of Polymer Science teaches that the viscosity range for dip coating is between 100-1000 cp. For brush coating, the viscosity range is between 100-2000 cp. Because the prior art teaches an equivalent method of coating it would therefore be obvious to use any disclosed viscosity.

12. Therefore it would be obvious to one with ordinary skill in the art at the time the invention was made to manufacture the coating composition taught by Craven with a viscosity between 100-1000 cp.

One would have been motivated to make this modification because this viscosity range is recognized in the art to be acceptable for dip-coating and brush-coating techniques.

The examiner takes the position that Craven as modified by The Encyclopedia of Polymer Science above inherently meets all of the limitations of claim 1. Craven as modified by The Encyclopedia of Polymer Science teaches applying a coating comprising the same materials, thickness, and viscosity as the coating disclosed by applicant on pages 14-15 of the specification. Because the coating disclosed by the applicant on these pages is assumed to meet the limitations on page 8 of the specification, the coating described by Craven as modified by The Encyclopedia of Polymer Science must therefore also meet those limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

nju
February 26, 2002

Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700